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(71) Applicant: KENWOOD CORP

(72) Inventor: Minoru Sakurai

(54) [Title of the Invention]

APPARATUS AND METHOD OF DATA-TRANSMITTING AND
RECORDING MEDIUM

(57) [Abstract]

[Problem to be Solved]

Image data is efficiently transmitted at a low
cost.

[Solution]

A storage unit 6 stores image data shot by a camera 1. At this time, the storage unit 6 associates the image data with date data indicating shooting date and time and stores the date. A control unit 7 allows a user to input a number of pieces of image data attached to e-mail using an operation unit 2 and a display unit 4. Then, the control unit 7 sets the number of attachments input by the user by storing the number in the storage unit 6. When a number of images shot by the camera 1 reaches the number of attachments set in advance, the control unit 7 acquires the image

data from the storage unit 6, attaches the data to e-mail, and transmits the mail to a predetermined destination. At this time, the control unit 7 writes a shooting date and time of the attached image data to text of the e-mail, and transmits the e-mail.

[Claims for the Patent]

[Claim 1]

A data transmission apparatus, characterized by comprising:

setting means for setting a number of pieces of image data to be attached to e-mail; and

transmission means for acquiring the number of pieces of the image data set by said setting means for transmission, attaching to e-mail the image data to be transmitted, and automatically transmitting the data to a predetermined destination.

[Claim 2]

The data transmission apparatus according to claim 1, characterized by further comprising:

shooting means for shooting an image; and

storage means for associating data of the image shot by said shooting means with date data indicating a shooting date and time and storing the data, and characterized in that

said transmission means writes the shooting date and time of the image data to be attached to e-mail to text of the e-mail and transmits the mail to a predetermined destination.

[Claim 3]

The data transmission apparatus according to claim 1 or 2, characterized by further comprising

counting means for counting a predetermined time from a start of acquiring image data, and characterized in that

said transmission means attaches image data to be transmitted to e-mail and automatically transmits the mail when a predetermined time counted by said counting means passes although said transmission means does not acquire image data of the number set by said setting means.

[Claim 4]

The data transmission apparatus according to claim 2 or 3, characterized in that

said storage means stores the image data attached to e-mail and transmitted by said transmission means as backup data.

[Claim 5]

The data transmission apparatus according to claim 4, characterized in that

said storage means stores image data last transmitted by e-mail as backup data, and clears old backup data.

[Claim 6]

A data transmission method, characterized by comprising:

a storing step of storing image data to be attached to e-mail and transmitted;

a setting step of setting a number of pieces of the image data to be attached to e-mail; and

a transmitting step of attaching to e-mail the image data, to be transmitted, of the number of pieces set in said setting step after a number of pieces of the image data stored in said storing step and to be transmitted reaches the number set in said setting step.

[Claim 7]

The data transmission method according to claim 6, characterized by further comprising

a shooting step of shooting an image, and characterized in that:

said storing step comprises a step of associating data of the image shot in said shooting step with date data indicating a shooting date and time and storing the data; and

said transmitting step comprises a step of writing the shooting date and time of the image data to be attached to e-mail to text of the e-mail, and transmitting the mail to a predetermined destination.

[Claim 8]

The data transmission method according to claim 6 or 7, characterized in that

said storing step comprises a step of storing as backup data the image data attached to e-mail and transmitted in said transmitting step.

[Claim 9]

The data transmission method according to claim 8, characterized in that

said storing step comprises a step of storing image data last transmitted by e-mail as backup data, and clearing old backup data.

[Claim 10]

A recording medium recording a program used to cause a computer to function as a data transmission apparatus, the data transmission apparatus being characterized by comprising:

storage means for storing image data to be attached to e-mail and transmitted;

setting means for setting a number of pieces of the image data to be attached to e-mail; and

transmission means for acquiring from the storage means the image data, to be transmitted, of the number of pieces set by the setting means, attaching the data to e-mail, and transmitting the mail to a predetermined destination.

[Detailed Description of the Invention]

[0001]

[Field of the Invention]

The present invention relates to a data transmission apparatus and a data transmission method. Specifically, the present invention relates to a data transmission apparatus and a data transmission method for transmitting data of an image shot by a camera to a

predetermined destination. Furthermore, the present invention relates to a recording medium recording a program for transmitting data.

[0002]

[Conventional Art]

A mobile telephone with a camera has a camera and a mobile telephone incorporated into one unit. A mobile telephone with a camera disclosed by Japanese Patent Laid Open No. 6-133081 issues a call addressed to a telephone number set in advance and reserves a line when the camera shoots an image, and then calls the data of the shot image from storage means and transmits the data to a call receiver.

[0003]

In addition, the mobile telephone with a camera disclosed by the publication has a batch transfer mode in which after a set number of pieces of image data is stored in built-in memory, a predetermined number of pieces of image data is collectively transmitted to a predetermined call receiver. Whether or not the batch transfer mode is to be set can be set in advance by a user of the mobile telephone with a camera.

[0004]

[Problems to be Solved by the Invention]

The technology disclosed by Japanese Patent Laid Open No. 6-133081 allows a user to set whether or not the mobile telephone with a camera is to be set in the

batch transfer mode, but does not allow the user to set the number of pieces of image data to be batch-transferred. Therefore, if the number of pieces of image data does not reach a predetermined number even after a predetermined shooting operation is completed, then the image data cannot be transmitted. Furthermore, in order to batch-transfer image data, unnecessary images have to be shot. Thus, using the mobile telephone with a camera disclosed by Japanese Patent Laid Open No. 6-133081, image data cannot be efficiently transmitted.

[0005]

In addition, when the mobile telephone with a camera is not set in the batch transfer mode, image data is transferred each time a shooting operation is performed. That is, each time a shooting operation is performed, the mobile telephone with a camera issues a call addressed to a telephone number set in advance, and transmits image data. Therefore, there occurs the problem of a communication cost.

[0006]

Furthermore, since the mobile telephone with a camera transmits the image data obtained in the shooting operation as is, an image data receiver cannot determine the contents of the image data unless the receiver actually checks the image. For example, the images cannot be determined without checking the

shooting date and time etc. Therefore, there occurs the problem that the images or the image data has to be arrayed.

[0007]

Therefore, the present invention aims at providing a data transmission apparatus and a data transmission method capable of efficiently transmitting image data at a low cost. The present invention also aims at providing a data transmission apparatus and a data transmission method capable of easily arraying image data. The present invention further aims at providing a recording medium recording a program used to efficiently transmit image data at a low cost. The present invention further aims at providing a recording medium recording a program capable of easily arraying image data.

[0008]

[Means for Solving the Problems]

To attain the above-mentioned objects, a data transmission apparatus according to a first aspect of the present invention is characterized by including: setting means for setting a number of pieces of image data to be attached to e-mail; and transmission means for acquiring the number of pieces of the image data set by the setting means for transmission, attaching to e-mail the image data to be transmitted, and automatically transmitting the data to a predetermined

destination. According to the invention, image data can be efficiently transmitted at a low cost.

[0009]

The data transmission apparatus can further include: shooting means for shooting an image; and storage means for associating data of the image shot by the shooting means with date data indicating a shooting date and time and storing the data, wherein the transmission means can write the shooting date and time of the image data to be attached to e-mail to text of the e-mail and transmits the mail to a predetermined destination.

[0010]

The data transmission apparatus can further include counting means for counting a predetermined time from a start of acquiring image data, wherein the transmission means can attach image data to be transmitted to e-mail and automatically transmit the mail when a predetermined time counted by the counting means passes although the transmission means does not acquire image data of the number set by the setting means.

[0011]

The storage means can store the image data attached to e-mail and transmitted by the transmission means as backup data.

[0012]

The storage means can store image data last transmitted by e-mail as backup data, and clear old backup data.

[0013]

A data transmission method according to a second aspect of the present invention is characterized by including: a storing step of storing image data to be attached to e-mail and transmitted; a setting step of setting a number of pieces of the image data to be attached to e-mail; and a transmitting step of attaching to e-mail the image data, to be transmitted, of the number of pieces set in the setting step after a number of pieces of the image data stored in the storing step and to be transmitted reaches the number set in the setting step.

[0014]

The data transmission method can further include a shooting step of shooting an image, wherein the storing step can include a step of associating data of the image shot in the shooting step with date data indicating a shooting date and time and storing the data; and the transmitting step can include a step of writing the shooting date and time of the image data to be attached to e-mail to text of the e-mail, and transmitting the mail to a predetermined destination.

[0015]

The storing step can include a step of storing as backup data the image data attached to e-mail and transmitted in the transmitting step.

[0016]

The storing step can include a step of storing image data last transmitted by e-mail as backup data, and clearing old backup data.

[0017]

A computer-readable recording medium according to a third aspect of the present invention records a program used to direct a computer to function as a data transmission apparatus characterized by including: storage means for storing image data to be attached to e-mail and transmitted; setting means for setting a number of pieces of the image data to be attached to e-mail; and transmission means for acquiring from the storage means the image data, to be transmitted, of the number of pieces set by the setting means, attaching the data to e-mail, and transmitting the mail to a predetermined destination.

[0018]

[Embodiment of the Invention]

Next, a mobile telephone with a camera according to an embodiment of the present invention is described below with reference to the attached drawings.

[0019]

The mobile telephone with a camera according to the embodiment of the present invention attaches data of images shot by the camera to e-mail, and automatically transmits the mail to a predetermined destination. The mobile telephone with a camera is configured by a camera 1, an operation unit 2, a radio unit 3 a display unit 4, a notification unit 5, a storage unit 6, and a control unit 7 as shown in Figure 1.

[0020]

The camera 1 is a digital camera etc., shoots an image by the operation of a user of the mobile telephone with a camera, and outputs the data of the image obtained by the shooting to the control unit 7. The operation unit 2 includes a plurality of operation buttons etc. and is operated by the user of the mobile telephone. The operation unit 2 outputs to the control unit 7 various signals for operating the mobile telephone by the operation of the user.

[0021]

The radio unit 3 includes an antenna etc., and transmits/receives data of e-mail etc. to/from another communication terminal. The display unit 4 includes a liquid crystal display etc., and displays the operation state of the mobile telephone with a camera and various setting screens etc.

[0022]

The notification unit 5 includes a speaker, a vibrator, etc. and notifies the user of the mobile telephone with a camera of the reception from another communication terminal, the completion of the transmission of e-mail, etc. by voice or the vibrator.

[0023]

The storage unit 6 includes RAM (random access memory), ROM (read only memory), etc., and stores a data transmission program for automatically transmitting image data by e-mail, data of various setting screens, image data, telephone numbers, addresses of e-mail, etc. The storage area of the image data is configured by three areas, that is temporary hold area, a save area, and a backup area.

[0024]

The image data obtained by the camera 1 is temporarily stored in the temporary hold area. Then, in image data processing described later, the image data is saved in the save area when a save instruction is issued, and saved as backup data in the backup area when a delete instruction is issued. The image data stored in the save area is attached to e-mail and transmitted, then deleted from the save area, and saved in the backup area as backup data. The backup area is updated by being sequentially overwritten, image data last deleted from the temporary hold area or the save area is saved and old backup data is cleared.

[0025]

The control unit 7 operates according to the data transmission program, etc. stored in the storage unit 6, controls each component configuring the mobile telephone with a camera, attaches image data to e-mail, and automatically transmits the mail to a predetermined destination. The operation of the control unit 7 is described later in detail.

[0026]

Next, the operation of the mobile telephone with a camera with the above-mentioned configuration is described below. Before taking a photograph using a camera 1, the user of the mobile telephone with a camera sets an automatic transmission condition for automatically transmitting image data by e-mail as follows.

[0027]

First, the user of the mobile telephone with a camera presses a predetermined operation button provided for the operation unit 2 to display a function menu of the mobile telephone with a camera. Thus, the operation unit 2 outputs to the control unit 7 a menu display signal indicating the display of a function menu screen.

[0028]

The control unit 7 acquires data of the function menu screen from the storage unit 6 in response to the

menu display signal from the operation unit 2, controls the display unit 4, and displays the function menu screen as shown in Figure 3(a).

[0029]

The user operates the operation unit 2 in a predetermined procedure, moves up and down the cursor to select an automatic image processing setting item displayed on the menu screen, and presses a predetermined operation button provided for the operation unit 2 to determine the selected item. Thus, the operation unit 2 outputs to the control unit 7 a selection signal indicating that the automatic image processing setting item has been selected.

[0030]

The control unit 7 acquires from the storage unit 6 data of an automatic image processing setting screen in response to the selection signal provided from the operation unit 2, controls the display unit 4 to display the automatic image processing setting screen as shown in Figure 3(b).

[0031]

The user operates the operation unit 2 as described above in a predetermined procedure, moves up and down the cursor, selects an automatic transmission condition setting item displayed on the automatic image processing setting screen, and presses a predetermined operation button provided for the operation unit 2 to

determine the selected item. Thus, the operation unit 2 outputs to the control unit 7 a selection signal indicating that the automatic transmission condition setting item has been selected.

[0032]

The control unit 7 acquires from the storage unit 6 data of an automatic transmission condition setting screen in response to the selection signal provided from the operation unit 2, controls the display unit 4, and displays the automatic transmission condition setting screen as shown in Figure 3(c). The user operates the operation unit 2 in a predetermined procedure, and inputs the automatic transmission condition on the automatic transmission condition setting screen displayed on the display unit 4.

[0033]

The automatic transmission condition is configured by the items of an address indicating the destination of e-mail, a title (title of e-mail), a file name of image data to be attached to e-mail, a number of pieces of image data to be attached to one piece of e-mail (number of attached files), and time (delay time) from a start of acquiring image data to be transmitted to the transmission of e-mail as shown in Figure 3(c).

[0034]

By setting the title of e-mail and the file name of image data for a shooting place etc., the contents

of the e-mail are understood at a glance without actually seeing the image, and the image can be arrayed in a short time. The image data to be automatically transmitted is determined by a file name, the image data automatically transmitted by the same e-mail has the same file name, and the serial number indicating the shooting order is added after the file name.

[0035]

After the user inputs each item of the automatic transmission condition, the user presses a predetermined operation button provided for the operation unit 2. Thus, the operation unit 2 outputs to the control unit 7 the automatic transmission condition input by the user. The control unit 7 sets the automatic transmission condition by storing the automatic transmission condition provided from the operation unit 2 in the storage unit 6.

[0036]

After the setting of the automatic transmission condition is completed, the user operates the operation unit 2 as described above, and sets ON/OFF for an automatic transmission mode in which image data is automatically transmitted according to the automatic transmission condition.

[0037]

Specifically, the user operates the operation unit 2 as described above, and displays the function menu

screen shown in Figure 3(a). Then, the user operates the operation unit 2 as described above, selects and determines the automatic image processing setting item displayed on the function menu screen, and displays the automatic image processing setting screen shown in Figure 3(b).

[0038]

The user operates the operation unit 2 as described above, moves the cursor up and down, and selects and determines an item of the automatic transmission mode displayed on the automatic image processing setting screen. Thus, the operation unit 2 outputs to the control unit 7 a selection signal indicating that the item of the automatic transmission mode has been selected.

[0039]

The control unit 7 acquires from the storage unit 6 data of an automatic transmission mode screen in response to the selection signal supplied from the operation unit 2, controls the display unit 4, and displays the automatic transmission mode screen as shown in Figure 3(d).

[0040]

When the user attaches image data to e-mail and automatically transmits the e-mail, the user operates the operation unit 2 as described above and turns on the automatic transmission mode. Thus, the operation

unit 2 outputs to the control unit 7 a mode setting signal indicating that the automatic transmission mode is turned on. The control unit 7 turns on the automatic transmission mode according to the mode setting signal provided from the operation unit 2. If the image data is simply saved, the user operates the operation unit 2 in advance, and turns off the automatic transmission mode.

[0041]

After the setting of the automatic transmission condition and the automatic transmission mode is completed, the user of the mobile telephone with a camera operates the camera 1 and shoots an image, and the control unit 7 processes image data in response to the image data provided from the camera 1 as shown in Figure 4. The camera 1 shoots an image by the operation of the user, sequentially provides the control unit 7 with data of the image obtain by shooting, and the control unit 7 starts the image data processing (acquires, stores, deletes, and transmits image data) in response to the image data provided from the camera 1.

[0042]

First, the control unit 7 stores the image data provided from the camera 1 in the temporary hold area of the storage unit 6, and determines whether or not the image data is to be automatically transmitted by e-

mail according to the mode setting signal set in advance by the operation unit 2 and provided then as shown in Figure 3(d) (step S101).

[0043]

At this time, when the control unit 7 starts shooting an image by the operation of the user, which triggers displaying a message etc. on the display unit 4, and allows the user to select and specify whether or not the image data is to be automatically transmitted by e-mail, and it can be determined whether or not the image data is to be automatically transmitted by e-mail according to a transmission/no-transmission signal provided from the operation unit 2 by the selection and specification.

[0044]

When it is determined that the image data is to be automatically transmitted (YES in step S101), the control unit 7 starts a delay timer, and starts counting the delay time until the transmission (step S102). Then, the control unit 7 acquires a number of attached files of the automatic transmission condition from the storage unit 6, and determines whether or not a number of pieces of image data to be transmitted has reached the number of attached files each time image data is provided from the camera 1 (step S103).

[0045]

If it is determined that the number of pieces of image data has not reached the number of attached files (NO in step S103), the control unit 7 determines whether or not there is an out-of-memory problem for saving the image data stored in the temporary hold area of the storage unit 6 (step S104). That is, the control unit 7 determines whether or not there remains a capacity for saving new image data in the save area of the storage unit 6.

[0046]

When it is determined that the capacity remains, that is, there is no out-of-memory problem (NO in step S104), the control unit 7 controls the storage unit 6, copies the image data in the temporary hold area to the save area and saves the data in the save area (step S105). At this time, the control unit 7 acquires from the storage unit 6 the name of the attached file of the automatic transmission condition, and saves the image data with the name of the attached file. The image data is associated with date data indicating the shooting date and time and saved in the save area.

[0047]

Then, the control unit 7 determines whether or not the delay time to the transmission has passed (step S106). When it is determined that the time has not passed (NO in step S106), the processing returns to step S103. If it is determined that the delay time has

passed (YES in step S106), the control unit 7 performs processing in step S107 described later.

[0048]

When it is determined in the processing in step S104 that the capacity does not remain, that is, there is an out-of-memory problem (YES in step S104), the control unit 7 performs the processing in step S107 described later.

[0049]

If it is determined in the processing in step S103 that the number of pieces of image data has reached the number of attached files (YES in step S103), then the control unit 7 acquires from the storage unit 6 the image data to be transmitted and attaches the data to e-mail, controls the radio unit 3, and transmits the mail to a predetermined destination (step S107).

[0050]

Specifically, the control unit 7 acquires from the storage unit 6 the name of the attached file of the automatic transmission condition, and acquires from the save area of the storage unit 6 the image data of the same file name as the acquired attached file name. Then, the control unit 7 attaches the image data acquired from the save area and the image data stored in the temporary hold area to e-mail. At this time, the control unit 7 writes a shooting date and time of each image to text of the e-mail using date data

associated with each piece of image data. Then, the control unit 7 acquires from the storage unit 6 a destination of the automatic transmission of the automatic transmission condition, controls the radio unit 3, and transmits the e-mail to the acquired destination.

[0051]

After the image data is transmitted by e-mail, the control unit 7 copies the transmitted image data as backup data to the backup area of the storage unit 6, and saves the data in the area. Then, the control unit 7 deletes the image data transmitted and stored in the temporary hold area and the save area (step S108), thereby terminating the image data processing. After automatically transmitting the image data by e-mail, the control unit 7 can control the notification unit 5 and notify the user of the completion of the automatic transmission by voice, vibration, etc.

[0052]

If it is determined in the processing in step S101 that the image data is not automatically transmitted (NO in step S101), the control unit 7 determines whether or not the image data determined not to be automatically transmitted is to be saved (step S109).

[0053]

Specifically, the control unit 7 controls the display unit 4, displays the message and the selection

item etc. as shown in Figure 5, and allows the user to select whether or not the image data is to be saved.

[0054]

In response to the message of the display unit 4, the user operates the operation unit 2 as described above, selects and determines whether or not the image data is to be saved. The operation unit 2 outputs to the control unit 7 a save/no-save signal indicating whether or not the image data is to be saved.

[0055]

The control unit 7 determines whether or not the image data provided from the camera 1 is to be saved according to the save/no-save signal provided from the operation unit 2. If it is determined that the image data is not to be saved (NO in step S109), then the control unit 7 controls the storage unit 6, copies the image data in the temporary hold area to the backup area, and saves the data as backup data (step S110), thereby terminating the image data processing.

[0056]

On the other hand, if it is determined that the image data is to be saved (YES in step S109), then the control unit 7 determines whether or not there is an out-of-memory problem for saving the image data stored in the temporary hold area of the storage unit 6 (step S111). That is, the control unit 7 determines whether

or not there remains a capacity for saving new image data in the save area of the storage unit 6.

[0057]

When it is determined that the capacity remains, that is, there is no out-of-memory problem (NO in step S111), the control unit 7 controls the storage unit 6, copies the image data in the temporary hold area to the save area and saves the data in the save area (step S112), thereby terminating the image data processing. At this time, the control unit 7 controls the display unit 4, displays a file name setting screen etc. to allow the user to input the file name etc. of the image data to be saved.

[0058]

On the other hand, when it is determined that the capacity does not remain, that is, there is an out-of-memory problem (YES in step S111), the control unit 7 displays on the display unit 4 a comment, for example, "delete unnecessary image data" to reserve the save area in memory, and terminates the image data processing. It is obvious that the user operates the operation unit 2 according to the comment to execute an image data delete program in response to such an operation.

[0059]

As described above, a predetermined number of pieces of image data can be attached to e-mail to

automatically transmit the e-mail to a predetermined destination. At this time, since the number of pieces of image data to be attached to one piece of e-mail can be set, the transmission frequency of e-mail can be appropriately controlled, thereby reducing the load on the control unit 7, and saving power consumption. In addition, when the image data is attached to e-mail, the shooting date and time of each image is written to the text of the e-mail, thereby easily arraying images without actually seeing the images.

[0060]

Furthermore, since the delay time can be set and unnecessary image data can be deleted, unnecessary e-mail transmission can be eliminated. In addition, when there is an out-of-memory problem, the image data to be automatically transmitted is deleted after e-mail is automatically transmitted. Therefore, the user can shoot an image without worrying about the memory capacity etc. Furthermore, since the last deleted image data is saved as backup data, erroneously deleted image data can be restored. In addition, by using e-mail, the image data can be transmitted at a low cost.

[0061]

The mobile telephone with a camera can include a transmission/reception unit for transmitting/receiving data by short distance radio such as infrared, Bluetooth, etc. or an external input/output device such

as a USB (universal serial bus). Thus, data transmission/reception to/from a portable large-capacity storage device, a mobile computer, etc. can be realized. Therefore, images can be shot or image data can be edited without worrying about a memory capacity etc. by saving the image data obtained by the shooting in a large-capacity storage device etc.

[0062]

Furthermore, the image data attached to e-mail and transmitted can be not only image data obtained by shooting, but also image data stored in the storage unit 6 in advance. In this case, after transmitting the data by e-mail, the transmitted image data can be deleted from the save area of the storage unit 6.

[0063]

Furthermore, the apparatus according to the present invention is not necessarily a dedicated apparatus, but can be a computer provided with a digital camera etc. For example, a program and data used to direct a computer to execute each processing mentioned above can be recorded on a recording medium (floppy (registered trademark) disk, CD-ROM, etc.), distributed, and then installed and executed by an operating system, thereby realizing the apparatus of the present invention. The program and the data can be distributed not only by using CD-ROM etc., but also through a communication circuit etc.

[0064]

[Advantages of the Invention]

As described above, the present invention can efficiently transmit image data at a low cost. Furthermore, according to the present invention, image data can be easily arrayed.

[Brief Description of the Drawings]

[Figure 1]

Figure 1 shows the configuration of a mobile telephone with a camera according to an embodiment of the present invention.

[Figure 2]

Figure 2 shows the configuration of a storage area of image data in a storage unit configuring the mobile telephone with a camera shown in Figure 1.

[Figure 3]

Figure 3 shows a screen displayed on a display unit configuring the mobile telephone with a camera shown in Figure 1.

[Figure 4]

Figure 4 is a flowchart of image data processing performed by the control unit configuring the mobile telephone with a camera shown in Figure 1.

[Figure 5]

Figure 5 shows a screen displayed on the display unit configuring the mobile telephone with a camera shown in Figure 1.

[Description of Symbols]

- 1 camera
- 2 operation unit
- 3 radio unit
- 4 display unit
- 5 notification unit
- 6 storage unit
- 7 control unit

Figure 1

- #1 MOBILE TELEPHONE WITH A CAMERA
- 1 CAMERA
- 2 OPERATION UNIT
- 3 RADIO UNIT
- 4 DISPLAY UNIT
- 5 NOTIFICATION UNIT
- 6 STORAGE UNIT
- 7 CONTROL UNIT

Figure 2

- #1 TEMPORARY HOLD AREA
- #2 SAVE AREA
- #3 BACKUP AREA
- #4 STORAGE AREA OF IMAGE DATA

Figure 3(a)

- #1 FUNCTION MENU
- #2 RINGING TONE PATTERN
- #3 GENERATE MELODY
- #4 SET VOLUME OF RINGING TONE
- #5 AUTOMATIC IMAGE PROCESSING SETTING

Figure 3(b)

- #1 AUTOMATIC IMAGE PROCESSING SETTING
- #2 AUTOMATIC TRANSMISSION MODE
- #3 AUTOMATIC TRANSMISSION CONDITION SETTING

Figure 3(c)

#1 AUTOMATIC TRANSMISSION CONDITION
 #2 DESTINATION OF AUTOMATIC TRANSMISSION
 #3 E-MAIL ADDRESS
 #4 TITLE
 #5 TITLE OF MAIL
 #6 ATTACHED FILE NAME
 #7 IMAGE FILE NAME
 #8 NUMBER OF ATTACHED FILES
 #9 DELAY TIME
 #10 MINUTES

Figure 3(d)

#1 TURN ON AUTOMATIC TRANSMISSION MODE?

Figure 5

#1 IMAGE IS TO BE SAVED?
 #2 SAVE
 #3 NOT SAVE

Figure 4

#1 START ACQUIRING IMAGE DATA
 S101 AUTOMATIC TRANSMISSION?
 S102 START COUNTING DELAY TIME
 S103 NUMBER OF ATTACHED FILES IS EQUAL TO PREDETERMINED
 NUMBER?

S104 OUT-OF-MEMORY PROBLEM?
S105 SAVE DATA
S106 TIMEOUT?
S107 AUTOMATIC TRANSMISSION
S108 DELETE TRANSMITTED IMAGE DATA
S109 SAVE?
S110 BACKUP
S111 OUT-OF-MEMORY PROBLEM?
S112 SAVE DATA
#2 END

部が有する画像データの記憶領域の構成図である。

【図3】図1に示すカメラ付携帯電話機を構成する表示部が表示する画面を示す図である。

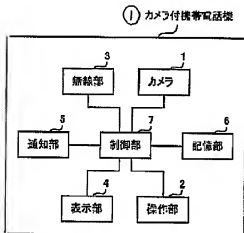
【図4】図1に示すカメラ付携帯電話機を構成する制御部が行う画像データ処理を示すフローチャートである。

【図5】図1に示すカメラ付携帯電話機を構成する表示部が表示する画面を示す図である。

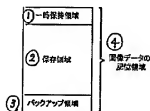
【符号の説明】

- 1 カメラ
- 2 操作部
- 3 無線部
- 4 表示部
- 5 通知部
- 6 記憶部
- 7 制御部

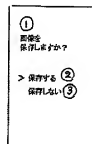
【図1】



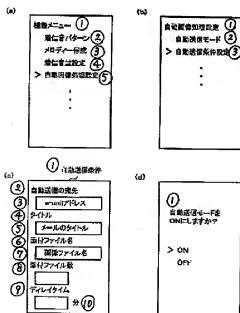
【図2】



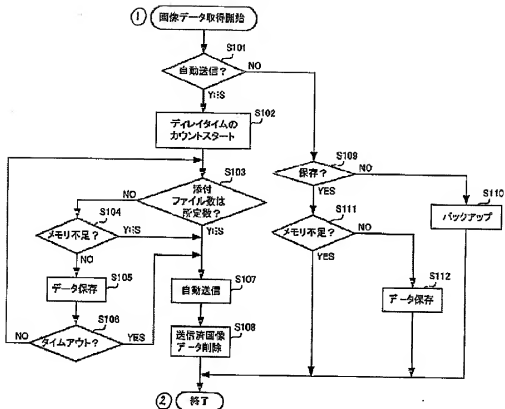
【図5】



【図3】



【図4】



フロントページの続き

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AC42 AC69
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AC12 AC18 AD06
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FF05 HH13 II023 KK15
5K101 KK02 LL12 NN06 NN21 RR12